CLAIMS

What is claimed is:

1.   A system to write a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine whether a location of the write element is within a threshold distance of a desired location;

inhibit writing of servo information to the track by the write element when the location of the write element is not within the threshold distance; and

enable writing of servo information to the track by the write element after the location of the write element is determined to be within the threshold distance.

2.   The system of claim 1, wherein the desired location is a desired write location.

3.   The system of claim 1, wherein the control mechanism is further to:

write to a memory an indication that writing of servo information was inhibited when the location of the write element is not within the threshold distance.

4.   The system of claim 3, wherein the indication includes an indication of servo wedges for which writing of servo information was inhibited.

5.   The system of claim 1, wherein the control mechanism is further to:

write to a memory an indication of servo information that was written to the track.

6.   The system of claim 1, wherein writing servo information includes at least one of writing servo information and trimming servo information.

7.   The system of claim 1, wherein the control mechanism determines whether a location of a write element is within a threshold distance of a desired location using a position error signal generated from a reference track.

8.   The system of claim 1, wherein the control mechanism is further to:

attempt to write servo information for which writing was inhibited during a subsequent revolution of the rotatable storage medium.

9.   The system of claim 8, wherein the control mechanism attempts to write servo information without re-writing any previously written servo information.

10.   The system of claim 1, wherein the location of the write element is an actual location of the write element.

11.   The system of claim 1, wherein the location of the write element is a predicted location of the write element.

12. The system of claim 1, wherein the control mechanism is further to:

increase the threshold distance when the track of servo information is not written after a number of revolutions of the rotatable storage medium.

13. The system of claim 12, wherein the threshold distance is increased by an amount determined from a position error of the write element.

14. The system of claim 12, wherein the number of revolutions is based upon a characteristic of the track.

15. The system of claim 1, wherein the control mechanism is further to:

enable writing servo information to the track by the write element unconditionally after a number of revolutions of the rotatable storage medium.

16. The system of claim 1, wherein the control mechanism includes at least one of a disk controller, a microprocessor, and a servo controller. ·

17. A system to write a target track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

a reference track of servo information;

a head adapted to read the reference track of servo information;

a write element adapted to write servo information to the rotatable storage medium using the reference track of servo information;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a position error signal generated as the head reads the reference track of servo information;

inhibit writing of servo information to the target track by the write element when a value of the position error signal exceeds a threshold value;

determine at least a second value of the position error signal when writing is inhibited, wherein writing can be resumed for the target track after the second value is within the threshold value.

18.   The system of claim 17, wherein the reference track of servo information is located on the rotatable storage medium.

19.   A system to write a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium; and

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a first distance between a first location of the write element and a first desired write location;

inhibit writing of servo information for the track by the write element when the first distance exceeds a threshold distance;

wherein the control mechanism determines at least a second distance between a second location of the write element and a second desired write location when writing is inhibited, whereby writing can be resumed for the track when the second distance is within the threshold distance.

20. The system of claim 19, wherein writing can be resumed without re-writing any previously written servo information for the track.

21. A system to servowrite a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a distance between a desired location of servo information for each of the servo wedges and a location of the write element;

determine whether the distance is greater than a threshold distance; and

inhibit writing by the write element of the servo information for each of the servo wedges for which the distance is greater than the threshold distance.

22. The system of claim 21, wherein the control mechanism is further to enable writing by the write element of the servo information for each of the servo wedges for which the distance is not greater than the threshold distance.

23.   The system of claim 21, wherein the servo information for each of the servo wedges is servo information to be written in a servowriting pass for each of the servo wedges.

24.   The system of claim 21, wherein the location of the write element is a predicted location of the write element

25.   The system of claim 21, wherein the control mechanism is further to:

attempt to write the servo information for each of the servo wedges for which the distance is greater than the threshold distance during a subsequent revolution of the rotatable storage medium.

26.   A system to servowrite a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism, for each of the servo wedges, to:

determine a distance between a desired location of servo information to be written for the servo wedge and the write element;

determine whether the distance is greater than a threshold distance; and

inhibit writing by the write element of the servo information for the servo wedge when the distance is greater than the threshold distance.

27.   A system to servowrite a track of a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a distance between a desired location of servo information for each of the servo wedges at the track and a location of the write element adapted to write the servo information;

determine whether the distance is greater than a threshold distance; and

inhibit writing by the write element of the servo information for each of the servo wedges at the track for which the distance is greater than the threshold distance.

28.   A system to servowrite a track of a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism, for each of the servo wedges, to:

determine a distance between a desired location of servo information to be written for the servo wedge at the track and a location of the write element;

determine whether the distance is greater than a threshold distance; and

inhibit writing by the write element of the servo information to the servo wedge at the track when the distance is greater than the threshold distance.

29.   A system to perform a servowriting pass for a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a distance between a desired location of servo information to be written during the servowriting pass for each of the servo wedges and a location of the write element;

determine whether the distance is greater than a threshold distance; and

inhibit writing by the write element of the servo information to be written during the servowriting pass for each of the servo wedges for which the distance is greater than the threshold distance.

30.   The system of claim 29, wherein the control mechanism is further to:

attempt to write the servo information to be written during the servowriting pass for each of the servo wedges for which writing was inhibited during a subsequent revolution of the rotatable storage medium during the servowriting pass.

31.   A system to perform a servowriting pass for a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism, for each of the servo wedges, to:

determine a distance between a desired location of servo information to be written for the servo wedge during the servowriting pass and a location of the write element;

determine whether the distance is greater than a threshold distance; and

inhibit writing by the write element of the servo information to be written for the servo wedge during the servowriting pass when the distance is greater than the threshold distance.

32.   The system of claim 31, wherein the control mechanism is further to:

attempt to write the servo information to be written for the servo wedge during the servowriting pass during a subsequent revolution of the rotatable storage medium during the servowriting pass when the distance is greater than the threshold distance.

33.   A system to perform a servowriting pass for a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a first distance between a first location of the write element and a first desired write location;

inhibit writing by the write element of servo information to be written to the first desired location and determining a second distance between a second location of the write element and a second desired write location in an attempt to write servo information to the second desired write location when the first distance is greater than a threshold distance.

34. A system to perform a servowriting pass for a rotatable storage medium having multiple servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a location of the write element relative to a desired write location for each of the servo wedges encountered during the servowriting pass; and

enable writing by the write element of servo information for each of the servo wedges for which the location of the write element is within a threshold distance of the desired write location.

35. The system of claim 34, wherein the control mechanism is further to:

inhibit writing by the write element of servo information for each of the servo wedges for which the location of the write element is not within the threshold distance of the desired write location.

36. A system to servowrite a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a position-error of the write element;

determine a direction of the position-error;

when the direction of the position-error is in a direction of servowriting propagation:

determine whether the position-error is within a first threshold;

inhibit writing of servo information to the track by the write element when the position-error is not within the first threshold;

enable writing of servo information to the track by the write element after the position-error is determined to be within the first threshold;

when the direction of the position-error is in a direction opposite to servowriting propagation:

determine whether the position-error is within a second threshold;

inhibit writing of servo information to the track by the write element when the position-error is not within the second threshold; and

resume writing of servo information to the track by the write element after the position-error is determined to be within the second threshold.

37.   The system of claim 36, wherein the first threshold is smaller than the second threshold.

38.   A system to servowrite a track of servo information for a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a distance between a desired location of servo information for each of the servo wedges and a location of the write element;

enable writing and trimming by the write element of servo information for each of the servo wedges for which the distance is less than a first threshold distance;

enable writing or trimming by the write element of servo information for each of the servo wedges for which the distance is greater than the first threshold distance and less than a second threshold distance;

inhibit writing and trimming by the write element of servo information for each of the servo wedges for which the distance is greater than the second threshold distance.

39.   A system to servowrite a track of servo information for a rotatable storage medium having a plurality of servo wedges, comprising:

a write element adapted to write servo information to the rotatable storage medium;

a control mechanism adapted to control writing of servo information to the rotatable storage medium, the control mechanism to:

determine a distance between a desired location of servo information for each of the servo wedges and a location of the write element;

enable writing and trimming by the write element of servo information using write current variation for each of the servo wedges for which the distance is less than a first threshold distance;

enable writing or trimming by the write element of servo information for each of the servo wedges for which the distance is greater than the first threshold distance and less than a second threshold distance;

inhibit writing and trimming by the write element of servo information for each of the servo wedges for which the distance is greater than the second threshold distance.

40.   The system of claim 39, wherein the control mechanism enables writing and trimming by the write element of servo information using write current variation by adjusting the size of servo information written and trimmed by the write element such that at least one edge of the servo information is in the desired location when written and trimmed.

41.   The system of claim 40, wherein the control mechanism adjusts the size of servo information written and trimmed by the write element by adjusting the write current supplied to the write element when writing and trimming.

42.   A system to write a track of servo information to a rotatable storage medium having a plurality of servo wedges, comprising:

        means for writing servo information to the rotatable storage medium;

        means for determining whether a location of a write element is within a threshold distance of a desired location;

        means for inhibiting writing of servo information to the track by the write element when the location of the write element is not within the threshold distance; and

        means for resuming writing of servo information to the track after the location of the write element is determined to be within the threshold distance.

43.   A system to trim a track of servo information on a rotatable storage medium having a plurality of servo wedges, comprising:

        a write element adapted to trim servo information on the rotatable storage medium;

a control mechanism adapted to control trimming of servo information to the rotatable storage medium, the control mechanism to:

determine whether a location of the write element is within a threshold distance of a desired location;

inhibit trimming of servo information on the track by the write element when the location of the write element is not within the threshold distance; and

enable trimming of servo information on the track by the write element after the location of the write element is determined to be within the threshold distance.